

RECEIVED  
CENTRAL FAX CENTER  
JUL 20 2006

AMENDMENTS

Please amend the claims as follows:

1. (original) A method for automatic setting in contrast agent quantification, the method comprising:
  - (a) initiating a contrast agent quantification procedure;
  - (b) repeating (a) during a same imaging session; and
  - (c) automatically normalizing a setting of an ultrasound system as a function of received information for each initiation.
2. (original) The method of Claim 1 further comprising:
  - (d) injecting contrast agents prior to (a);wherein (a) comprises initiating one of a wash-in and wash-out quantification procedure.
3. (original) The method of Claim 1 wherein (b) comprises performing the contrast agent quantification procedure at least once for each of at least one of: different views of a same region and different imaging parameters.
4. (original) The method of Claim 1 wherein (c) comprises adaptively determining a gain of the ultrasound system.
5. (original) The method of Claim 1 wherein (c) comprises normalizing as a function of the received information at a beginning of each repetition in (b).
6. (original) The method of Claim 1 further comprising:
  - (d) transmitting acoustic energy to destroy contrast agents in response to the initiations of the contrast agent quantification procedure in (a) and (b); and
  - (e) detecting contrast agent after (d);

wherein (c) comprises determining a gain separately for each performance of the contrast agent quantification procedure, the gain determined from received information after (d) and substantially prior to (e).

7. (original) The method of Claim 1 wherein (c) comprises normalizing free of user input of the setting.

8. (original) The method of Claim 1 further comprising:

(d) preventing user adjustment of the setting for a time period after each of the initiations of (a) and (b).

9. (original) The method of Claim 1 wherein (c) comprises:

(c1) determining tissue values at a plurality of locations in the region after injection of contrast agent; and

(c2) adaptively varying a gain of an ultrasound system based on the tissue values, the gain associated with mapping the tissue values within an image to a substantially constant low value; and

further comprising:

(d) generating at least one image of contrast agent responsive to the gain for each of the contrast agent quantification procedures.

10. (original) The method of Claim 9 wherein (c2) is performed free of a separately acquired thermal noise frame of data.

11. (original) The method of Claim 1 wherein the contrast agent quantification procedure comprises:

(d) transmitting acoustic energy to destroy contrast agents;

wherein (c) comprises

(c1) acquiring first data representing a region after (d); and

(c2) adaptively varying a gain of an ultrasound system based on the first data representing a first sub-region of the region and free of the first data representing a second sub-region of the region, the second sub-region associated with contrast agents.

12. (currently amended) A method for automatic setting in contrast agent quantification, the method comprising:

- (a) destroying contrast agent in a region of interest;
- (b) automatically setting a gain parameter for receive signals from the region of interest in response to (a); and

- (c) detecting contrast agent in the region of interest after (b);

wherein (a) comprises transmitting acoustic energy; (b) comprises adaptively varying the gain of an ultrasound system based on tissue values, the gain associated with mapping the tissue values within an image to a substantially constant low value and (c) comprises detecting the contrast agent during a contrast agent quantification procedure.

13. (canceled)

14. (original) The method of Claim 12 wherein (b) comprises calculating the gain as a function of data acoustically acquired substantially immediately after (a).

15. (original) The method of Claim 12 further comprising:

- (d) repeating (a), (b) and (c) in sequence;
- (e) quantifying as a function of each repetition of (c).

16. (currently amended) The method of Claim 12 wherein (b) comprises:

- (b1) determining tissue values at a first plurality of locations in the region after (a);
  - (b2) determining contrast agent values at a second plurality of locations in the region after (a), the second plurality of locations different than the first plurality of locations;
- and

(b3) adaptively varying the gain of an ultrasound system ~~based on the tissue values and free of the contrast agent values, the gain associated with mapping the tissue values within an image to a substantially constant low value; and~~

further comprising:

(d) generating at least one image of contrast agent responsive to the gain.

17. (original) A method for automatic setting in contrast agent quantification, the method comprising:

(a) injecting contrast agents into a region;

(b) determining tissue values at a plurality of locations in the region after (a);

(c) adaptively varying a gain of an ultrasound system based on the tissue values, the gain associated with mapping the tissue values within an image to a substantially constant low value; and

(d) generating an image of contrast agent responsive to the gain.

18. (original) The method of Claim 17 wherein (c) is performed free of a separately acquired thermal noise frame of data.

19. (original) The method of Claim 17 wherein (c) comprises setting the gain such that tissue values are within a lower 15% of a dynamic range and contrast agent values are within an upper 85% of the dynamic range.

20. (original) The method of Claim 17 wherein (c) comprises setting the gain such that tissue values are substantially at a bottom of a dynamic range.

21. (original) The method of Claim 17 further comprising:

(e) performing (b) after acoustic destruction of contrast agents.

22. (original) The method of Claim 17 wherein (c) comprises setting the gain based on the tissue values and free of contrast agent values.

23. (currently amended) A method for automatic setting in contrast agent quantification, the method comprising:

- (a) transmitting acoustic energy to destroy contrast agents;
- (b) acquiring first data representing a region after (a); and
- (c) adaptively varying a gain of an ultrasound system based on the first data representing a first sub-region of the region and free of the first data representing a second sub-region of the region, the second sub-region associated with contrast agents;  
wherein (c) comprises adaptively varying the gain such that tissue values are mapped to a substantially constant low value.

24. (canceled).

25. (original) The method of Claim 23 further comprising:

- (d) detecting contrast agents as a function of the gain;
- (e) repeating (a), (b), (c) and (d) in sequence;
- (f) quantifying as a function of each repetition of (d).

26. (original) The method of Claim 1 wherein (c) comprises adaptively determining a gain from the group of: lateral gain, depth gain, system gain, dynamic range and combinations thereof of the ultrasound system from a baseline frame of data;

further comprising:

- (d) applying the gain to the baseline frame of data and at least one subsequent frame of data.

27. (original) The method of Claim 14 further comprising:

- (d) applying the gain to the data acoustically acquired substantially immediately after (a) and subsequent data acquired during (c).